

The April 2024 Chippewa Valley Astronomy Update



Figure caption: Telescopes allow you to experience firsthand the wonders just out of sight in the night sky. If you have questions about your telescope, members of the Chippewa Valley Astronomical Society might be able to help. Join them at Hobbs Observatory after dark on clear Saturdays from May through October.

How powerful is my new telescope? by Kevin Litten

“I got this telescope for Christmas...”. Around about July, the Chippewa Valley Astronomical Society gets mail like this. It comes electronically these days yet the questions are usually the same: “How powerful is it?”, or “Why can’t I see anything through it?”

Let’s step back for a moment. When astronomers gather on cloudy nights they often brag about how awful their first telescopes were. Some built their own. Others bought it on sale at K-Mart; yeah, it has been a while. The tiny objective lens, the wobbly tripod, the focuser that never seemed to focus. Yes, we all had a starter scope.

If we persevered, we learned to wait for dark, clear nights. Find a steady spot to plant that tripod. We learned how to read a star atlas. We learned that some objects were big and other objects were bright. The moon is the only big bright object. The moon is the confidence builder for all astronomers. Learn to view the moon then go to the Orion Nebula in the Wintertime or the Andromeda Galaxy in the Summertime.

Just as rifles have identifying numbers engraved on their barrels, telescopes have numbers etched into theirs. The two numbers to look for are the Focal Length and the Diameter of the objective lens or primary mirror. Eyepieces have a number on them also. Good news! These numbers are in metric, so the math is easy. Divide the Focal Length by the number on the eyepiece and that will give you the magnification.

A telescope with a 900 mm focal length using a 12.5 mm eyepiece has a magnification of 72. If the objective lens is 90 mm in diameter the maximum feasible magnification or power would be 180. You can overdo it - I double dare you to try. Many of the best astronomical objects are large. Seven power binoculars give wonderful views.

To answer the second question: be patient, keep trying, practice using the telescope in the daytime. If you still can’t get it to work, bring it out to one of the CVAS meetings at Hobbs Observatory, Beaver Creek Reserve. We haven’t found a scope that stumped us yet. Just one little caution you need to know; your starter scope is more like a gateway scope. It will lead you to obtaining bigger scopes, and more scopes, and then taking trips to

exotic places like Nebraska for exceptional seeing conditions. Yep, those little scopes open up many new vistas in your life journey. Be careful.

--Kevin Litten is a member of the Chippewa Valley Astronomical Society